

Bunker Hill  
 AMD Mitigation Concepts  
 3.1: South Fork Diversion  
 Order of Magnitude Cost Opinion

DATE: 06/13/2000  
 PROJECT NO.: 152215.FS.02  
 ESTIMATE BY: D. Hedglin

DESCRIPTION	QTY	UNIT	TOTAL UNIT COST	TOTAL COST	COMMENTS
<b>Site Access Road</b>					
Clear & Grub New Road	1,330	LF	8.62	\$11,458	asm 30'w & 50'/hour
Grade, Fill & Compact New Road	1,330	LF	38.16	\$50,756	
Base Course on New Road	493	CY	24.92	\$12,277	
Grade & Improve Existing Road	800	LF	28.90	\$23,118	
Erosion & Sedimentation Control	1	LS	41,643.58	\$41,644	\$/LF allowance for ditches, culverts, silt fences, sed ponds, etc
<b>Diversion Structure</b>					
Diversion/Care of Water	1	LS	10,000.00	\$10,000	
Excavate for Sheetpile Dam	900	CY	17.23	\$15,507	
Native Backfill Around Sheetpiles	900	CY	13.30	\$11,970	
Sheetpile Wall for Cutoff	1,100	SF	30.00	\$33,000	
Excavate for Screen Structure	70	CY	17.23	\$1,206	
Native Backfill Around Screen Structure	20	CY	13.30	\$266	
Backfill Riprap Overflow Spillway	325	CY	39.95	\$12,984	
Construct Screen Intake Structure	15	CY	552.24	\$8,284	
Construct Transition Structure	15	CY	552.24	\$8,284	
Foundation Grout Curtain	750	LF	40.00	\$30,000	
Bar Screen	1	LS	10,329.99	\$10,330	
<b>Collector Pipe &amp; Gabions</b>					
Excavation	300	CY	17.23	\$5,169	
Imported Bed, Zone & Backfill	250	CY	31.62	\$7,906	
Waste	300	CY	3.29	\$986	
36" Perf. Collector Pipe	200	LF	68.62	\$13,724	
Regrade Stream	1	LS	20,676.10	\$20,676	
Gabion Sediment Traps	50	CY	183.25	\$9,162	
<b>Pipeline &amp; Access Road</b>					
36" Pipeline in Imp Road	850	LF	127.24	\$108,152	including earthwork & fittings
36" Pipeline in New Road	1,350	LF	127.24	\$171,771	including earthwork & fittings
Stream Crossing	1	EA	4,579.02	\$4,579	
Thrust Block	1	EA	822.38	\$822	
Air Vent	3	EA	586.19	\$1,759	
Cut-Off Trench Seepage Walls	22	EA	2,100.00	\$46,200	asm 7cy @ \$300/cy
Thrust Block	2	EA	3,789.51	\$7,579	
<b>Bureau of Reclamation Stilling Basin</b>					
Structure Complete	2	LS	67,230.08	\$134,460	based on Lake Tapps design & estimate
<b>SUBTOTAL</b>				<b>\$814,028</b>	
<b>MISC ALLOWANCE</b>				<b>\$81,403</b>	
<b>SUBTOTAL</b>				<b>\$895,431</b>	
<b>CONTINGENCY</b>				<b>\$358,173</b>	
<b>SUBTOTAL</b>				<b>\$1,253,604</b>	
<b>MOBILIZATION</b>				<b>\$188,041</b>	
<b>CONSTRUCTION TOTAL</b>				<b>\$1,441,644</b>	
<b>SALES TAX ON MATERIALS</b>				<b>\$20,664</b>	
<b>ENGINEERING AND SUPPORT</b>				<b>\$288,329</b>	
<b>CONST MANAGEMENT</b>				<b>\$115,332</b>	
<b>CAPITAL TOTAL (ROUNDED)</b>				<b>\$1,870,000</b>	
<b>ANNUAL O&amp;M COST</b>			<b>\$29,900</b>		
<b>NPV OF ANNUAL O&amp;M COSTS (30 YEARS @ 7% INTEREST)</b>				<b>\$371,000</b>	
<b>TOTAL 30-YEAR PRESENT WORTH COST @ 7% INTEREST</b>				<b>\$2,241,000</b>	

## NOTES:

Misc Allowance markup is to include items known to exist but cannot be quantified at this time.

Contingency is for scope changes that are presently unforeseen.

Mobilization includes bonds, insurance, temporary facilities, health & safety, demobilization, etc.